## **EAST Search History**

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1730	injection adjusted time	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:09
L2	46529	wellbore OR borehole	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:19
L3	30	L1 AND L2	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:20
L4	100	injection (adjusted NEAR time)	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:44
L5	7	L2 AND L4	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:44
L6	359	injection (adjusted NEAR2 time)	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:46
L7	13	L6 AND L2	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:46
L8	6	L7 NOT L5	US-PGPUB; USPAT; USOCR	WITH	ON	2009/08/04 18:46
S1	246	((DAVID) near2 (CRAIG)). INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 10:26
\$2	7	S1 AND thornton.inci.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/21 10:28
83	55	((DAVID) near2 (CRAIG)). INV.	EPO; JPO; DERWENT	OR	OFF	2009/04/21 10:29
S4	0	S3 AND thornton.inci.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/21 10:33
S6	874	"craig, d".INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 10:37
S7	124	"craig, david".INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 10:39
S8	7	S7 AND thornton.inci.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/21 10:41

S9	3	S7 AND halliburton.asn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/21 10:42
S10	3	S2 AND halliburton.asn.	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/21 10:42
S11	8	((DAVID ADJ P) near2 (CRAIG)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 11:04
S12	1	S11 NOT S8	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 11:05
S13	0	((DAVID ADJ P) near2 (CRAIG)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/04/21 11:06
S14	3	(("4531403") or ("5070457") or ("20030079875")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 11:08
S15	1138	(702/6,11,13).ccls.	US-PGPUB; USPAT	OR	OFF	2009/04/21 11:27
S16	1	("7054751").URPN.	USPAT	OR	OFF	2009/04/21 12:16
S17	2	("2005/0216198").URPN.	USPAT	OR	OFF	2009/04/21 12:17
S18	6	("20020096324"   "20050216198"   "20050222852"   "3285064"   "4797821").PN. OR ("7389185").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 12:30
S19	223	(166/250.1).cds.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 14:48
\$20	1	dual unit slope wellbore storage	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:36
S21	1	dual unit slope wellbore	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:36
S22	5	unit slope wellbore	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:36
\$23	3	(unit slope wellbore) AND fractur\$5	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:39
\$24	229	constant rate equivalent pressure	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:40
\$25	1	S22 AND S24	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:40
S26	13	S24 AND fractur\$5	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:41
\$27	8	((DAVID ADJ P) near2 (CRAIG)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 15:42
S28	8	\$26 NOT \$27	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:42

S29	5	constant rate equivalent pressure	US-PGPUB; USPAT; USOCR	NEAR	ON	2009/04/21 15:44
\$30	0	\$29 NOT \$27	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:44
S31	28	(transform\$6 convert\$6) ADJ2 pressure	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 15:46
S32	19522	(transform\$6 convert\$6) ADJ2 pressure	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 15:46
S33	4	S19 AND S32	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 15:46
\$34	4230	well ADJ2 fractur\$4	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 15:47
S35	30	S32 AND S34	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 15:47
S36	4	(("20050216198") or ("3285064") or ("4797821")). PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/04/21 15:56
\$37	1	(transform\$6 OR convert\$6) constant rate equivalent pressure	US-PGPUB; USPAT; USOCR	NEAR	ON	2009/04/21 16:00
<b>S3</b> 8	13	(transform\$6 OR convert\$6) constant rate equivalent pressure	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:01
S39	8	S38 NOT S27	US-PGPUB; USPAT; USOOR	WITH	ON	2009/04/21 16:01
S40	13	S24 AND (pressure ADJ2 convert\$4)	US-PGPUB; USPAT; USOOR	WITH	ON	2009/04/21 16:04
S41	11	S40 NOT \$38	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:04
S42	0	S22 AND (pressure ADJ2 convert\$4)	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:09
S43	1	S22 AND (pressure NEAR2 convert\$4)	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:09
S44	0	(transform\$6 OR convert\$6) constant equivalent pressure	US-PGPUB; USPAT; USOCR	NEAR	ON	2009/04/21 16:14
S45	48	(transform\$6 OR convert\$6) constant equivalent pressure	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:14
S46	5152332	well wellbore borehole	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:14
S47	40	S45 AND S46	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:14
S48	3	S45 SAME S46	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:14
S49	45367	wellbore borehole	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:15
S50	45367	S49 AND S46	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:15
S51	6	S49 AND S45	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:15

S52	1209	(transform\$6 OR convert\$6) equivalent pressure	US-PGPUB; USPAT; USOCR	WITH	ON	2009/04/21 16:18
S53	50	S49 AND S52	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:18
S54	44	S53 NOT S51	US-PGPUB; USPAT; USOCR	OR	ON	2009/04/21 16:18
S55	5119	(73/152.01-152.62).ods.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/22 12:06
S56	572	\$55 and fractur\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/04/22 12:11
S57	1189	(367/25-35).cds.	US-PGPUB; USPAT	OR	OFF	2009/07/23 10:09
S60	740	(fractur\$4 (well OR wellbore) formation fluid pressur\$4 inject\$5 unit slope residual width)	US-PGPUB; USPAT	AND	ON	2009/07/23 10:10
S61	0	S57 S60	US-PGPUB; USPAT	AND	ON	2009/07/23 10:10
S62	1195	(702/6,11,13).ccls.	US-PGPUB; USPAT	OR	OFF	2009/07/23 10:11
S63	5	S62 S60	US-PGPUB; USPAT	AND	ON	2009/07/23 10:11
S64	229	(166/250.1).cds.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/23 12:15
S65	740	(fractur\$4 (well OR wellbore) formation fluid pressur\$4 inject\$5 unit slope residual width)	US-PGPUB; USPAT	AND	ON	2009/07/23 12:15
<b>S</b> 66	3	S64 S65	US-PGPUB; USPAT	AND	ON	2009/07/23 12:15
<b>S</b> 68	1	("6904366").PN.	US-PGPUB; USPAT; USOOR	OR	OFF	2009/07/23 15:10
S69	1	("20030051873").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/23 15:14
S70	1	("20060212238").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/23 15:54
S71	2	dual unit slope wellbore stor \$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB	WITH	ON	2009/07/23 17:05

S72	2	dual unit slope wellbore stor \$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	SAME	ON	2009/07/23 17:06
S73	6	unit slope wellbore stor\$4	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/07/23 17:06
S74	0	S72 NOT S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/07/23 17:06
S75	4	S73 NOT S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/07/23 17:07
S76	8	((DAVID ADJ P) near2 (CRAIG)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/23 17:43
S77	0	S76 AND @pd>="20090411"	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/23 17:43
S78	2645	(702/1,2,6,9,11-13).ccls.	US-PGPUB; USPAT	OR	OFF	2009/07/23 18:09
S79	1043	(dual unit slope stor\$4 well fractur\$4 inject\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/23 18:10
S80	13	S78 AND S79	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/23 18:10
S81	1	(dual unit slope stor\$4 well fractur\$4 inject\$4).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/23 18:11
S82	1	S79 and S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/23 18:11

S83	0	(jeffrey ADJ west).pa.	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/24 10:46
S84	0	(jeffrey ADJ west).xp.	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/07/24 10:46
S85	24	(jeffrey NEAR west).xp.	USPAT	AND	ON	2009/07/24 10:47
S86	1	("20050222852").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/07/24 12:06
\$87	12	shut ADJ in ADJ (time OR period)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 12:46
S88	0	(shut ADJ in ADJ (time OR period)) WITH (pressure ADJ difference)	US-PGPUB; USPAT; USCOR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 12:46
S89	0	(shut ADJ in ADJ (time OR period)) WITH (pressure ADJ difference)	US-PGPUB; USPAT; USCOR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/08/03 12:47
S90	0	(shut ADJ in ADJ (time OR period)) SAME (pressure ADJ difference)	US-PGPUB; USPAT; USCOR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/08/03 12:47
591	5	(shut ADJ in ADJ (time OR period)) AND (pressure ADJ difference)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/08/03 12:47
S92	7	\$87 NOT \$91	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/08/03 14:07

S94	53	"t.sub.ne"	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/08/03 14:10
S95	1	("20050222852").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/08/03 14:12
S96	0	".DELTA.p"\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:13
S97	9736896	"DELTA.p"(t)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:14
S98	111	S94 WITH S97	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:15
S99	42	S94 NOT S98	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:18
S100	0	S99 AND wellbore	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:19
S101	0	S99 AND (bore ADJ2 hole)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/08/03 14:19
S102	156	time relative end injection	US PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:20

<b>S</b> 103	6	shut-in time relative end injection	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:20
S104	13	shut-in time end injection	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:28
S105	7	S104 NOT S103	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:28
S106	0	S105 AND (pressure NEAR2 difference)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:30
S107	0	S105 AND (pressure NEAP2 initial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:30
S108	51	log pressure versus time	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:30
S109	21	log-log pressure versus time	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:30
S110	6	S104 AND S109	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:35
S111	0	S110 NOT S103	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB	WITH	ON	2009/08/03 14:35

S112	1	".intgsub.0.supDELTA.t. DELTA.pd.DELTA.t"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:58
S113	13	"p.sub.w"(t)"-p.sub.i"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 14:59
S114	5	S113 AND (pressure NEAR2 difference)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 15:00
S115	7	"t-t.sub.ne"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 15:01
S116	2	S115 NOT S114	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 15:02
S117	0	S114 NOT S113	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 15:02
S118		S113 NOT S114	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2009/08/03 15:03
S119	1	("7387161").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/08/04 10:42

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